Catalogue of American Amphibians and Reptiles.

WILSON, LARRY DAVID. 1982. *Tantilla*.

Tantilla

Tantilla Baird and Girard, 1853:131. Type-species *Tantilla coronata* Baird and Girard, 1853, by original designation.

Homalocranion Duméril, Bibron, and Duméril, 1854:490. Type-species not indicated.

Lioninia Hallowell, 1861:484. Type-species *Lioninia vermiformis* Hallowell, 1861, by monotypy.

Microdromus Günther, 1873:17. Type-species *Microdromus virgatus* Günther, 1873 [=*Tantilla reticulata* Cope, 1860], by monotypy.

Pogonaspis Cope, 1894:204. Type-species *Pogonaspis ruficeps* Cope, 1894 [=*Tantilla melanocephala* (Linnaeus), 1758], by monotypy.

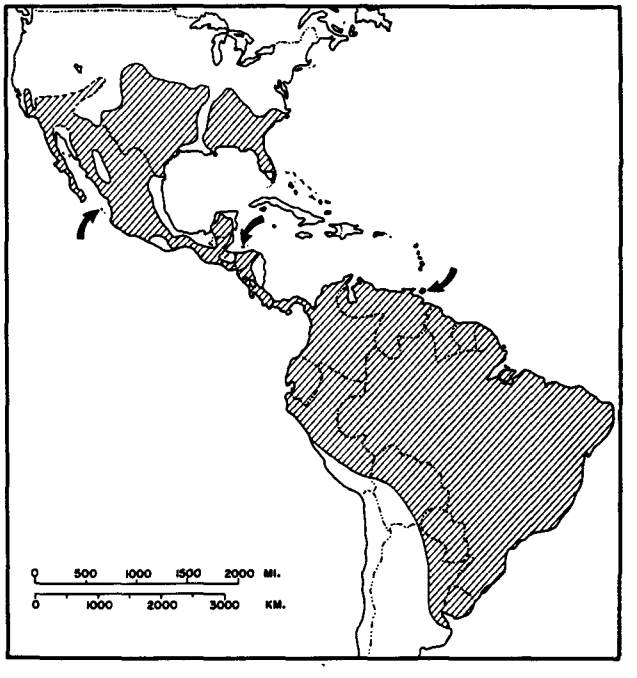
• CONTENT. Forty-six species are currently recognized: *albiceps, alticola, andinista, annulata, atriceps, bairdi, bocourti* (2 subspecies), *brevicauda, briggsi, calamarina, canula* (2 subspecies), *capistrata, cascadae, coronadoi, coronata, cuniculator, deppei, equatoriana, flavilineata, gracilis, hobartsmithi, insulamontana, jani, lempira, melanocephala, miniata, moesta, morgani, nigra, nigriceps* (2 subspecies), *oaxacae, oolitica, petersi, planiceps, relicta* (3 subspecies), *reticulata, rubra* (3 subspecies), *schistosa* (4 subspecies), *semicincta, shawi, striata, supracincta, taeniata, vermiformis, wilcoxi* (2 subspecies), *yaquia*.

• DEFINITION AND DIAGNOSIS. A colubrid genus characterized by: slender body with head not noticeably distinct from body; head scutellation consisting of a normal rostral followed by two internasals, two prefrontals, two supraoculars, one frontal, and two parietals; lateral head scutellation of a divided nasal, no loreal, one preocular (absent in some *calamarina*), usually two postoculars (characteristically one in *albiceps, calamarina, gracilis,* and *nigra*), no suboculars, temporals 1+1; usually 7 supralabials (characteristically 6 in *calamarina, cascadae,* and *gracilis*), with the 3rd and 4th entering orbit, infralabials usually 6, sometimes 5 or 7, with 3 or 4 in contact with anterior chinshields; dorsal scales smooth, in 15 rows throughout; ventrals 103 (*canula*) to 197 (*planiceps*); anal plate divided; subcaudals 21 (*brevicauda*) to 82 (*rubra*), paired; maximum total length about 650 mm (*rubra*); maxillary teeth 10 to 21, separated by a diastema from two enlarged posterior grooved fangs; hemipenis simple with single sulcus spermaticus, distal half spinose, proximal half naked with one or two enlarged basal spines; dorsal color pattern of several types: (1) uniform, (2) dark middorsal stripe(s) on paler background, (3) pale middorsal (and, perhaps, lateral) stripe on darker background, (4) alternating pale and dark transverse bands, (5) reticulate; head frequently (though not always) darker than remainder of body, with or without a pale nuchal band, which may or may not be followed by a dark nape band.

Tantilla may be distinguished from other colubrid genera in the Western Hemisphere by the following combination of characteristics: posterior maxillary teeth grooved, enlarged, separated by diastema from 10–21 anterior maxillary teeth; rostral normal; loreal absent; internasals and prefrontals paired, distinct from one another; temporals 1+1; dorsal scales smooth, in 15 rows throughout; anal plate divided.

• DESCRIPTIONS. The genus has never been reviewed in its entirety and many species are known from little more than the original description, frequently based on one or a few specimens. The most detailed descriptions are in the following works: *albiceps*—Barbour (1925); *alticola*—Boulenger (1903, 1913), Wilson, McCranie, and Porras (1977); *andinista*—Wilson and Mena (1980); *annulata*—Taylor (1951, 1954); *atriceps*—Tanner (1966), McDiarmid (1968), Cole and Hardy (1981); *bairdi*—Stuart (1941); *bocourti*—Smith (1942), Smith and Laufe (1945); *brevicauda*—Mertens (1952), Uzzell and Starrett (1958), Wilson (1970); *briggsi*—Savitzky and Smith (1971); *calamarina*—Wilson and Meyer (1981); *canula*—Smith (1942), Neill and Allen (1961), Wilson, McCranie, and Porras (1977); *capistrata*—Wilson and Mena (1980); *cascadae*—Wilson and Meyer (1981); *coronadoi*—Wilson and Meyer (1981); *coronata*—Telford (1966); *cuniculator*—Smith (1939, 1942), Duellman (1965), Wilson, McCranie, and Porras (1977); *deppei*—Wilson and Meyer (1981); *equatoriana*—Wilson and Mena (1980); *flavilineata*—Wilson and Meyer (1971); *gracilis*—Hardy and Cole (1968); *hobartsmithi*—Cole and Hardy (1981); *insulamontana*—Wilson and Mena (1980); *jani*—Wilson and Meyer (1971); *lempira*—Wilson and Mena (1980); *melanocephala*—Wilson and Vila (1973), Wilson and Mena (1980); *miniata*—Smith (1942); *moesta*—Smith (1942); *morgani*—Hartweg (1944); *nigra*—Boulenger (1914); *nigriceps*—Blanchard (1938), Smith (1938); *oaxacae*—Wilson and Meyer (1971); *oolitica*—Telford (1966), Porras and Wilson (1979); *petersi*—Wilson (1979); *planiceps*—Tanner (1966), McDiarmid (1968), Cole and Hardy (1981); *relicta*—Telford (1966); *reticulata*—Wilson and Meyer (1971); *rubra*—Smith (1942), Smith and Werler (1969), Degenhardt, Brown, and Easterla (1975); *schistosa*—Smith (1962), Wilson and Villa (1973); *semicincta*—Wilson (1976); *shawi*—Taylor (1949); *striata*—Wilson and Meyer (1971); *supracincta*—Peters (1863), Peters (1960); *taeniata*—Wilson and Meyer (1971), Wilson and Hahn (1973), Wilson and Villa (1973), Wilson (1974); *vermiformis*—Wilson and Villa (1973), Van Devender and Cole (1977); *wilcoxi*—Smith (1942); *yaquia*—McDiarmid (1968), Hardy and McDiarmid (1969), Cole and Hardy (1981). Aspects of oviduct morphology of nine species of *Tantilla* were discussed by Clark (1970).

• ILLUSTRATIONS. Over three-fourths of the species of *Tantilla* have been illustrated. These species are listed below, followed by the works in which they have been illustrated: *alticola*—Boulenger (1913); *andinista*—Wilson and Mena (1980); *annulata*—Werner (1909), Taylor (1951); *atriceps*—Stebbins (1966); *bocourti*—Taylor (1937); *brevicauda*—Mertens (1952); *briggsi*—Savitzky and Smith (1971); *calamarina*—Wilson and Meyer (1981); *capistrata*—Wilson and Mena (1980); *cascadae*—Wilson and Meyer (1981); *coronadoi*—Wilson and Meyer (1981); *coronata*—Wright and Wright (1957), Telford (1966), Barbour (1971), Conant (1975); *deppei*—Wilson and Meyer (1981); *equatoriana*—Wilson and Mena (1980); *flavilineata*—Wilson and Meyer (1971); *gracilis*—Wright and Wright (1957), Anderson (1965), Hardy and Cole (1968), Conant (1975); *insulamontana*—Wilson and Mena (1980); *jani*—Wilson and Meyer (1971); *lempira*—Wilson and Mena (1980); *melanocephala*—Hardy and Cole (1967), Wilson and Mena (1980); *miniata*—Günther (1895); *moesta*—Bocourt (1883), Günther (1895); *nigra*—Boulenger (1914); *nigriceps*—Taylor (1937), Wright and Wright (1957), Stebbins (1966), Conant (1975); *oaxacae*—Wilson and Meyer (1971); *oolitica*—Telford (1966), Porras and Wilson (1979); *petersi*—Wilson (1979); *planiceps*—Günther (1895), Taylor (1937), Stebbins (1966), Tanner (1966), McDiarmid (1968); *relic-*



MAP. Arrows indicate insular localities; dotted line indicates uncertain range boundary.

ta—Telford (1966); *reticulata*—Bocourt (1883), Günther (1895), Wilson and Meyer (1971); *rubra*—Taylor (1939), Minton (1956), Fouquette and Potter (1961), Smith and Werler (1969), Easterla (1975); *schistosa*—Bocourt (1883), Taylor (1954); *semicincta*—Wilson (1976); *striata*—Wilson and Meyer (1971); *taeniata*—Wilson and Meyer (1971); *wilcoxi*—Stebbins (1966); *yaquia*—Zweifel and Norris (1955), Stebbins (1966), McDiarmid (1968).

• DISTRIBUTION. The genus *Tantilla* ranges throughout the southeastern and south-central United States (except the Mississippi River valley and wetlands of Louisiana) from North Carolina (an isolated population of *T. coronata* occurs in central Virginia) and Florida to eastern Colorado, New Mexico, and southeastern Arizona. The genus occurs throughout most of México (including the Tres Marías Islands), except for around the northern end of the Gulf of California, the northern portion of the Sierra Madre Occidental, the northern portion of the Atlantic lowlands, and the Tabasco lowlands. *Tantilla* occurs along the length of Central America (including the Bay Islands) and apparent gaps in the range are probably due more to lack of collecting than real distributional lacunae. The genus is widely distributed throughout northern and southeastern South America south to southern Perú, northern Argentina, and Uruguay. One species also occurs on Trinidad and Tobago.

• FOSSIL RECORD. Auffenberg (1963) tentatively assigned material from the Pleistocene of Florida to *T. coronata* (*relicta*?). Holman (1969) summarized Pleistocene records from Texas, all of which were assigned to *Tantilla* sp. indet.

• PERTINENT LITERATURE. The most comprehensive review of the species of *Tantilla* is that of Smith (1942) for the Mexican species. The species occurring in the United States were treated by Blanchard (1938). Various groups within the genus *Tantilla* have been reviewed or revised, as follows: *schistosa* group (Smith, 1962); *planiceps* group (Tanner, 1966; Cole and Hardy, 1981); *coronata* group (Telford, 1966); *taeniata* group (Wilson and Meyer, 1971); *melanocephala* group (Wilson and Mena, 1980); *calamarina* group (Wilson and Meyer, 1981).

Very little work has been done on the biology of this genus. Miscellaneous natural history notes are available in various general and state works for those species occurring in the United States. Force (1935) studied some aspects of the ecology of *T. gracilis* in Oklahoma. Aspects of reproduction were studied by (species studied indicated in parentheses): Neill and Boyles, 1957 (*coronata*); Carpenter, 1958 (*gracilis*); Easterla, 1975 (*rubra*). Fitch (1970) summarized miscellaneous reproductive data. Observations on food have been made by: Guthrie, 1926 (*nigriceps*); Force, 1935 (*gracilis*); Milstead, Mecham, and McClintock, 1950 (*atriceps*); Wehekind, 1955 (*melanocephala*); Hamilton and Pollack, 1956 (*coronata*); Carpenter, 1958 (*gracilis*); Lindner, 1962 (*atriceps*); Miller and Stebbins, 1964 (*planiceps*). Clark (1967) studied preference for soil type, soil moisture, and temperature for *T. gracilis*. Gehlbach et al. (1971) studied pheromone trail-following behavior in *T. gracilis*.

• KEY TO SPECIES. Parenthetical numbers refer to published Catalogue accounts. Known scale counts are enclosed in brackets.

1. Last supralabial in contact with parietal, separating anterior and posterior temporals ---------- *coronadoi*
   Last supralabial separated from parietal, anterior and posterior temporals contacting one another ---------- 2
2. Postocular usually single ---------- 3
   Postoculars usually 2 ---------- 7
3. Dorsum tan to brown with darker stripes on middorsum and rows 3 and 4 ---------- *calamarina*
   Dorsal coloration not as above ---------- 4
4. Head and nape white; remainder of dorsum dark olive ---------- *albiceps*
   Dorsal coloration not as above ---------- 5
5. Dorsum and venter black ---------- *nigra*
   Dorsal coloration not as above ---------- 6
6. Dorsum of head slightly darker brown than remainder of body ---------- *gracilis*
   Dorsum of head much darker than remainder of body ---------- *atriceps*
7. Dorsum of body with alternating pale and dark transverse bands ---------- 8
   Dorsal pattern not as above ---------- 11
8. Dorsum reddish-brown to dark red with pale, black-bordered transverse bands usually extending to middorsal line and alternating with those on other side of body ---------- *annulata*
   Dorsal coloration not as above ---------- 9
9. Pale bands present only on anterior part of body ---- *shawi*
   Pale bands present over length of body ---------- 10
10. Ventrals more than 160 [161–176]; subcaudals more than 50 [54–71] ---------- *semicincta* (part)
    Ventrals fewer than 150 [holotype 148]; subcaudals fewer than 50 [38] ---------- *supracincta*
11. Dorsum with a pale middorsal stripe the length of the body on a black ground color ---------- *semicincta* (part)
    Dorsal pattern not as above ---------- 12
12. Dorsum and venter dark brown to black ---------- *moesta*
    Dorsal coloration not as above ---------- 13
13. Dorsum with a median dark longitudinal stripe ---------- 14
    Dorsal coloration not as above ---------- 22
14. Supralabials six; dark middorsal stripe occupying middle of middorsal scale row; head pattern of spatulate dark anterior extension of middorsal dark stripe flanked by pale narrow longitudinal markings connected to pale postparietal spots ---------- *cascadae*
    Supralabials seven; dorsal coloration not as above ------ 15
15. Ventrals fewer than 130 [115–129]; subcaudals fewer than 30 [19–28] ---------- *vermiformis*
    Ventrals usually 130 or more; subcaudals more than 30 ---------- 16
16. Middorsal dark stripe relatively broad, occupying as little as all of middorsal scale row or as much as middorsal row and adjacent halves of paravertebral rows; head pattern of spatulate dark anterior extension of middorsal dark stripe flanked by narrow longitudinal pale markings and short pale middorsally interrupted nuchal collar ---------- *deppei*
    Dorsal color pattern not as above ---------- 17
17. Nuchal spots confluent with dorsal body ground color ---------- *insulamontana*
    Nuchal spots or collar bounded posteriorly by dark nape band or, if not, nuchal spots not confluent with dorsal body ground color ---------- 18
18. Pale preocular spot continues posterodorsally onto preocular scale to touch eye ---------- *equatoriana*
    Pale preocular spot excluded from orbit by dark ocular spot ---------- 19
19. Dark head cap with extensive pale markings consisting of pale marking on snout continuing posteriorly over supraocular and anterolateral corner of parietal and downward to connect with postocular pale spot ---------- *andinista*
    Head pattern not as above ---------- 20
20. No dark pigment bounding pale neck band (behind dark nape band) posteriorly ---------- *melanocephala* (part)
    Dark pigment bounding pale neck band (behind dark nape band) posteriorly ---------- 21
21. Nuchal spots indistinct and largely confined to scales posterior to parietals; dark ventral border of pale lateral stripe present ---------- *lempira*
    Nuchal spots distinct and usually restricted to parietal scales; no dark ventral border of pale lateral stripe (if present) ---------- *melanocephala* (part)
22. Dorsum with a median pale longitudinal stripe ---------- 23
    Dorsal color pattern not as above ---------- 29
23. Subcaudals fewer than 30 [21–26] ---------- *brevicauda*
    Subcaudals more than 30 ---------- 24
24. Middorsal stripe occupying only middorsal scale row -- *jani*
    Middorsal stripe occupying middorsal scale row and adjacent halves of paravertebral rows ---------- 25
25. Nape band reduced to a pair of spots, one on either side of midline ---------- *striata*
    Nape band complete or divided medially and/or laterally ---------- 26
26. Nape band not crossing last supralabial ---------- *oaxacae*
    Nape band crosses last supralabial ---------- 27
27. Well-defined dark stripe present on lateral edges of ventrals; anterolateral edges of scales of pale areas on dorsum outlined with dark pigment ---------- *reticulata*
    No dark stripe present on lateral edges of ventrals; no dark pigment concentrated on anterolateral edges of scales of pale areas on dorsum ---------- 28
28. Ground color pale, a dark median stripe of varying intensity on each dorsal row, including paraventral row ---------- *flavilineata*
    Ground color dark, no dark median stripes on dorsal scale rows; scales of paraventral row distinctly divided into a dark upper and pale lower half ---------- *taeniata*

29. Ventrals fewer than 115 [103–114] ..... *canula*
Ventrals more than 115 30
30. Pale lateral stripe on rows 3 and 4 31
No pale lateral stripe 32
31. Ventrals more than 165 [male holotype 172] ..... *briggsi*
Ventrals fewer than 160 [139–154] ..... *cuniculator*
32. Dorsum of head more or less same color as dorsum of body 33
Dorsum of head much darker than dorsum of body 36
33. Subcaudals more than 50 34
Subcaudals fewer than 50 35
34. Pale nuchal collar present ..... *alticola*
Pale nuchal collar absent ..... *petersi*
35. Ventrals more than 155 [female holotype 164] ..... *bairdi*
Ventrals fewer than 155 [117–147] ..... *schistosa*
36. Entire head dark above and below to a point 3 to 4 scales posterior to parietals ..... *rubra* (part)
Head pattern not as above 37
37. Pale nuchal band absent 38
Pale nuchal band present 40
38. Head cap convex or pointed posteriorly ..... *nigriceps*
Head cap straight-edged posteriorly 39
39. Hemipenis with 2 basal hooks ..... *oolitica* (part) (256)
Hemipenis with 1 basal hook ..... *relicta* (part) (257)
40. Pale nuchal band crossing tip of parietals 41
Pale nuchal band bordering parietals or present 1 to 3 scales posterior to parietals 47
41. Posterior black border of pale nuchal band covering one scale or less ..... *wilcoxi*
Posterior black border of pale nuchal band covering 2 to 3 scale lengths 42
42. Dark dorsal coloration sharply differentiated from pale ventral coloration at edges of ventrals ..... *morgani*
Dorsal coloration grades into pale ventral coloration 43
43. Ventrals 147 or more 44
Ventrals 146 or fewer 45
44. Subcaudals more than 55 [56–73] ..... *rubra* (part)
Subcaudals fewer than 55 [46–49] ..... *miniata*
45. Hemipenis with one basal hook ..... *relicta* (part) (257)
Hemipenis with two basal hooks 46
46. Pale nuchal band present ..... *coronata* (308)
Pale nuchal band absent (except in Key Largo specimens) ..... *oolitica* (part) (256)
47. Pale nuchal band distinct, bordered behind by black band one scale in length or less ..... *bocourti*
Pale nuchal band distinct or not, not bordered posteriorly by dark pigment, or, if so, pigment reduced to series of spots 48
48. Black head cap does not extend laterally below angle of mouth ..... *hobartsmithi*
Black head cap extends laterally below angle of mouth 49
49. Extensive white postocular spot, extending onto lower one-fourth to three-fourths of anterior temporal ..... *yaquia* (198)
No white pigment on anterior temporal ..... *planiceps*

• ETYMOLOGY. The name *Tantilla* is derived from the Latin *tantillum*, meaning "so small a thing," in reference to the small size of these snakes, and is of feminine gender.

COMMENT

Tantilla is one of the more speciose genera of snakes in the Western Hemisphere. The entire genus has never been revised and a number of systematic problems remain to be solved. The excellent scheme of species groups set up by Smith (1942) should be extended to *Tantilla* occurring south of Mexico and those described since 1942. This consideration is, perhaps, the most pressing systematic one.

The relationships of *Tantilla* to *Tantillita*, *Scolecophis*, *Geagras*, and other colubrid genera still remain to be investigated.

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